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UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
OAKLAND DIVISION

POTTER VOICE TECHNOLOGIES LLC

Plaintiff,

v.

APPLE INC.,

Defendant.

Case No. 4:13-cv-01710-CW

**PLAINTIFF POTTER VOICE  
TECHNOLOGIES LLC'S OPPOSITION  
TO APPLE'S MOTION RE INVALIDITY  
UNDER SECTION 101**

Date: May 28, 2015

Time: 2:00 p.m.

Courtroom: 2, 4th Floor

Judge: Hon. Claudia Wilken

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1     **I. INTRODUCTION**

2           The inventions of the ‘659 Patent advance the field of computer science and engineering in a way  
 3 that allows humans to speak to a computer and control it using their natural language—something  
 4 considered largely science fiction in 1995—and are exactly the type of innovations the patent system was  
 5 designed to encourage. First, the claims of the ‘659 Patent do not seek to exclude the public from the  
 6 alleged abstract idea of “finding information in a tabular data structure,” and Apple’s contention with  
 7 respect to the same is a complete debasement of the ‘659 Patent. The claims of the ‘659 Patent require a  
 8 microphone, a speech-to-text converter, associative search techniques, content determination based on  
 9 syntactic and semantic rules and conventions of natural language, tabular data structures for data storage,  
 10 and data processing using all of the foregoing, to permit a user to verbally interact with a computer. To  
 11 reduce the claims to a “table” and ignore the other essential elements is prohibited under *Alice*. Moreover,  
 12 nothing in *Alice* suggests that the use of a computer or computer-related concepts in a patent claim  
 13 transforms the subject matter into something abstract and patent ineligible. Accordingly, there is no  
 14 abstract idea and the Court’s analysis should stop here.

15           Second, the ‘659 Patent claims inventive concepts unknown at the priority date, concepts built on  
 16 a foundation of technology that was not well-understood, routine, or conventional, including specific  
 17 associative search and content determination techniques and combinations of the same. And even if the  
 18 claims rested on exclusively conventional components, the ordered combination of the elements of the  
 19 ‘659 Patent result in systems and methods that created a computer that can understand and respond to the  
 20 human’s natural speech—concepts that are inventive by any measure.

21           Finally, *Alice*’s principal concern of preempting the building blocks of scientific and  
 22 technological work is notably absent in this case. The public is free to practice the alleged abstract idea of  
 23 “finding information in a tabular data structure” in countless ways while staying clear of the ‘659 Patent.  
 24 For instance, the public is free to find information in a table using a keyboard, mouse, touchpad, or  
 25 visually. And even if oral input is used, the public can find information in tables without a speech-to text  
 26 converter or absent the use of certain associative search or content determination techniques. The PTO  
 27 already determined that the inventions in the ‘659 Patent were patent-eligible, and the patent must be  
 28 presumed valid. In the end, Apple’s cannot meet its high – “clear and convincing” – burden to show

otherwise. Apple's motion should be denied.

## II. FACTUAL BACKGROUND

### A. The '659 Patent Teaches A Specialized Device For Controlling A Computer With Human Voice.

The inventions of the '659 Patent "use[] oral input, natural language based rules, associative searching and tabular data structures to provide an easily learned means for controlling a digital computer." (Gilbert Decl., <sup>1</sup> Ex. A at 2:21-24). These inventions employ "a means for receiving oral input connected to a digital computer." (*Id.* at 2:34-35). "The oral input is received by a microphone and converted to digital input information representing each word of the oral input by a voice recognition device." (*Id.* at 2:46-48). "The input information is then used to associatively search the contents of a tabular data structure organized in rows and columns. The row or rows which contain the largest number of data elements equivalent to the elements of the word group are identified." (*Id.* at 2:48-53). Thus, the computer determines the intended meaning of the spoken words by the human. For example, Claim 22 recites:

22. An *apparatus for using oral input to control a digital computer*, comprising:

- (a) receiving means for *receiving oral input*;
- (b) *word recognition* means, operatively associated with said receiving means, for *generating input information*;
- (c) a *digital computer*, operatively associated with said word recognition means;
- (d) *storage* means, located within said digital computer, for *storing data in a tabular data structure*;
- (e) search means, located within said digital computer, for *associatively searching said tabular data structure*, comprising means for *identifying labels* within said tabular data structure *which relate to at least a first part of such input information*;
- (f) content determination means, located within said digital computer, for *determining content information* relating to input information; and
- (g) processing means, located within said digital computer, for *processing data*.

(*Id.* at Claim 22). Claim 4 adds the functionality of identifying an operation to be performed (once the meaning of the language is determined) and performing it. (*Id.* at Claim 4). Claim 6 adds the

<sup>1</sup> References herein to "Gilbert Decl." refer to the Declaration of Jennifer L. Gilbert submitted concurrently with this opposition.

1 functionality of providing a follow up request to the human operator based on the initial request or  
 2 command, and Claim 7 requires that the words comprise a verb and a noun (*e.g.*, “Place a call to Hal”).  
 3 (*Id.* at Claims 6 and 7). And Claims 23 and 24 add the ability for the computer to talk back to you based  
 4 on your command. (*Id.* at Claims 23 and 24).

#### 5 **B. The State of Technology In 1995.**

6 As of the priority date of the ‘659 Patent, the entire concept of being able to control and interact  
 7 with a computer through natural language speech was considered science fiction — a concept embraced  
 8 by fans of Star Trek and the Space Odyssey series. Although HAL<sup>2</sup> from *2001: A Space Odyssey* and the  
 9 Federation Starship USS Enterprise<sup>3</sup> from *Star Trek* could be controlled by natural human voice, such  
 10 technology was Hollywood fiction in 1995. In fact, over ten years later, when the developers at SRI  
 11 International first started and named the project that eventually became the accused product Siri,<sup>4</sup> they  
 12 chose to call the product “HAL.” (Gilbert Decl., Ex. B). SRI even marked certain confidential  
 13 documents as proprietary and, as part of the designation, quipped “[a]buse it and HAL will find you.” *Id.*  
 14 To be sure, in as late as 2007, designing a voice control system for computers using natural language was  
 15 difficult even for those working at the Stanford Research Institute. *Id.*

16 In 1995, however, Dr. Jerry Potter invented a way of bringing into reality something considered  
 17 fantastical by most. He did so by combining new and unconventional technology with existing  
 18 technology, and some American ingenuity, to create the novel inventions described in the ‘659 Patent.

19 One of the many technological features of the ‘659 Patent relates to tabular data structures. The  
 20 tabular data structures referred to in the ‘659 Patent are digital structures accessible through software.  
 21 And while it is possible to conceive of these structures by analogy to older, physical tables, like those  
 22 used to track grain stores on parchment in ancient times, the tabular data structures at issue exist digitally,  
 23 are rendered by electrons fired through computer hardware as directed by specialized code. These digital  
 24 tabular data structures are as far removed from paper tables as a supersonic jet is from a mule.

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25 <sup>2</sup> HAL is a computer that is infamous for turning against the crew of the spaceship that it controlled in the  
 26 book (and later movie) *2001: A Space Odyssey*. [http://en.wikipedia.org/wiki/HAL\\_9000](http://en.wikipedia.org/wiki/HAL_9000)

27 <sup>3</sup> Certain models of the USS Enterprise’s onboard computer responded to natural language speech in the  
 Star Trek series. [http://en.wikipedia.org/wiki/Majel\\_Barrett#Star\\_Trek](http://en.wikipedia.org/wiki/Majel_Barrett#Star_Trek)

28 <sup>4</sup> Apple acquired Siri from Siri, Inc. (a spin-off of SRI International) in April of 2010. (*See* Gilbert Decl.,  
 Ex. C at p. 22-23).

1           Importantly, the ‘659 Patent does not claim the mere concept of tables, or even the idea of tabular  
2 data structures in a digital computer. Instead, where the Patent teaches tabular data structures, it claims a  
3 new way of electronically searching these structures – associative search. The ‘659 Patent defines  
4 associative search as “a technique of accessing or identifying an entire datum from a body of data by  
5 specifying a portion of the datum.” (Gilbert Decl., Ex. A at 3:4-6).

6           The benefits of associative search over conventional methods can include: “eliminat[ing] the need  
7 for pointers, linked lists, sorted data and other complex data structures, which are required by sequential  
8 processors for fast, efficient data processing.” (Gilbert Decl., Ex. A at 6:46-49). Dynamic modification  
9 and use in parallel processing are additional available benefits. (*Id.* at 6:49-52). In contrast, in 1995 the  
10 conventional practice for constructing and then searching, accessing, and editing digitized tables was to  
11 use spreadsheets, database tables, an n-dimensional arrays of data (*e.g.* aa[i][j]). (*Id.* at 6:34-39).  
12 “Typically, these data formats are address based and the location of an element is specified by an address  
13 in a one-dimensional sequential memory.” (*Id.* at 6:39-41). Dr. Potter, however, approached the problem  
14 in a new way — using associative search, which was something far from conventional or routine.

15           The ‘659 Patent uses associative search techniques to search the contents of digitized tabular data  
16 structures. (*See* Gilbert Decl., Ex. A at 2:46-54; 3:4-14). Prior to the priority date of the patent, there had  
17 been efforts in the research community to build special computing hardware to support associative  
18 knowledge representation and processing. (*See* Gilbert Decl., Ex. D at POTTER0000038). However, the  
19 use of the theory of associative processing had not been incorporated into a programming language. (*See*  
20 Gilbert Decl., Ex. E at POTTER0000529). In fact, the use of associative search as a computing paradigm  
21 was just being introduced in late 1994 and 1995. (Gilbert Decl., Ex. D at POTTER0000038). Dr. Potter  
22 was one of the first to introduce this computing paradigm to the world. (Gilbert Decl., Exs. D at  
23 POTTER0000038 and E at POTTER0000529). As such, at the time Dr. Potter filed the ‘659 Patent,  
24 these associative techniques for enabling content-addressable access to digitized tables were not well  
25 understood, were not conventional, or routine, and were certainly not in common use.

26           In conjunction with this associative search, the oral input information in the ‘659 Patent is  
27 “analyzed to determine the content information of the words.” (Gilbert Decl., Ex. A at 2:53-54). This  
28 technology was also new as of the priority date. In 1995, “problems [we]re particularly evident when



attempting to control computers using oral or spoken input as a substitute for keyboard or pointer entry. Cryptic commands which may be efficient to enter using a keyboard may be difficult to pronounce or cause awkward speech patterns.”<sup>5</sup> (*Id.* at 1:52-56). Accordingly, the conventional approaches to controlling computers using oral input were problematic. (*Id.* at 1:15-65). However, in the ‘659 Patent, content information is determined by the use of rules derived from syntactic and semantic rules, and through conventions of natural language. (*Id.* at 2:55-60). This use of content determination in conjunction with associative search was not conventional, routine, or well known, and in fact, was inventive. (*Id.* at 1:15-65).

### C. The Inventive Concepts of the ‘659 Patent Are Described in the Claims.

As noted above, existing systems had attempted to build spoken language control capability based upon the conventional table storage and access methods. (Gilbert Decl., Ex. A at 6:34-39). These systems resulted in a constrained and robotic-like experience for the user. (*Id.* at 1:18-65). The whole point of the ‘659 Patent is that by applying associative computing methods in conjunction with content determination techniques based on linguistic rules, you make a very large, marked improvement in the type and quality of spoken user interface you can provide for controlling digital computers. (*Id.* at 2:11-33). Claims 1, 4, 6, 7, and 22-24 of the ‘659 Patent (the “Asserted Claims”) address the core of this approach and articulate specific ways that associative computing techniques can be used to achieve the new and innovative method for spoken language control of digital computers disclosed in the ‘659 Patent.

Specifically, the Asserted Claims use associative computing applied to natural language processing to control a digital computer using a human’s natural speech patterns as oral input. The ‘659 Patent’s spoken language control is based upon a bedrock of associative representation and content determination, which allows a spoken language interface to the digital computer to be used to control the computer. (Gilbert Decl., Ex. A at 5:6-37). The methods and systems of the ‘659 Patent: (1) accept natural language as input; (2) through a microphone; (3) process that natural language using a speech-to-

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<sup>5</sup> For example, a user navigating through a series of menus would have to articulate a string such as “two – enter – (pause) – four – enter – (pause) – one – enter – (pause) – one – enter” or a user may have to say “D – I – R – space – C – colon – backslash – M – Y – D – I – R backslash – asterisk – dot – A – B – C – enter” to get to find all files in a database that relate to “ABC.” (*See* Gilbert Decl., Ex. A at 1:56-65).

1 text converter; and then (4) by using associative searching and content determination based on syntactic  
 2 and semantic rules and conventions of natural language; (5) control the computer based on the oral input  
 3 (e.g., a command); and (6) audibly convey the results or ask for more information. (*See Id.* at Claims 1, 4,  
 4 6, 7, and 22-24). Put simply, the computer figures out what it was told to do and does it — just like HAL  
 5 or the computers aboard the Starship Enterprise.

### 6 **III. LEGAL STANDARDS**

7 From a procedural standpoint, Apple has failed to specify whether it has moved to dismiss, moved  
 8 for judgment on the pleadings, or moved for summary judgment. *See* Dkt. No. 408, at 5. In any event,  
 9 summary judgment is only appropriate if the movant “shows that there is no genuine dispute as to any  
 10 material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. Proc. 56(a). At  
 11 summary judgment, the court must “draw all reasonable inferences in favor of the nonmoving party, and  
 12 it may not make credibility determinations or weigh the evidence.” *Reeves v. Sanderson Plumbing*  
 13 *Prods., Inc.*, 530 U.S. 133, 150 (2000).

14 The standard for a Rule 12(c) motion for judgment on the pleadings is the same as for motions to  
 15 dismiss brought under Rule 12(b)(6). *Cafasso, U.S. ex rel. v. Gen. Dynamics C4 Sys., Inc.*, 637 F.3d  
 16 1047, 1054 n. 4 (9th Cir.2011). For purposes of a Rule 12(c) motion, “the allegations of the non-moving  
 17 party must be accepted as true, while the allegations of the moving party which have been denied are  
 18 assumed to be false.” *Hal Roach Studios, Inc. v. Richard Feiner & Co., Inc.*, 896 F.2d 1542, 1550 (9th  
 19 Cir.1989). Judgment on the pleadings is improper unless the moving party “clearly establishes on the  
 20 face of the pleadings that no material issue of fact remains to be resolved and that it is entitled to  
 21 judgment as a matter of law.” *Hal Roach Studios*, 896 F.2d at 1550.

22 Section 101 is a “coarse eligibility filter” that leaves other sections of the Patent Act to filter out  
 23 inventions that lack novelty, are obvious, or are inadequately described. *Research Corp., Techs., Inc. v.*  
 24 *Microsoft Corp.*, 627 F.3d 859, 869 (Fed. Cir. 2010). Moreover, each claim is entitled to a presumption  
 25 of validity independently from that of the other claims, and the party challenging the validity of a patent  
 26 must address each claim individually. 35 U.S.C. § 282(a); *Dayco Products, Inc. v. Total Containment,*  
 27 *Inc.*, 329 F.3d 1358, 1370-1371 (Fed. Cir. 2003); *Monolithic Power Systems, Inc. v. O2 Micro Intern.*  
 28 *Ltd.*, Case No. C 08–04567 CW, 2010 WL 583960, \*7 (N.D. Cal. Feb. 16, 2010); *Syntex (U.S.A.) LLC v.*

1 *Apotex Inc.*, Case No. C 01-02214 MJJ, 2006 WL 1530101, \*26 (N.D. Cal. June 2, 2006). When the  
 2 validity of an issued patent is challenged under §101, the presumption that the patent is valid remains and  
 3 the party challenging validity bears the heavy burden of overcoming this presumption by clear and  
 4 convincing evidence. 35 U.S.C. § 282(a); *Microsoft Corp. v. i4i Ltd. Partnership*, 131 S.Ct. 2238, 2242-  
 5 2243, 2245, (2011); *Allergan, Inc. v. Apotex Inc.*, 754 F.3d 952, 958 (Fed. Cir. 2014).

6 In *Alice*, the Supreme Court set forth a two-part test to evaluate patent eligibility under 35 U.S.C.  
 7 § 101. In the first step, a court must “determine whether the claims at issue are directed to one of those  
 8 patent ineligible concepts,” namely, a law of nature, physical phenomenon, or abstract idea. *Alice Corp.*  
 9 *Pty. Ltd. v. CLS Bank Int’l*, 134 S.Ct. 2347, 2355 (2014). If the claim is directed to one of these concepts,  
 10 then the Court must determine whether the claim has an “‘inventive concept’ – *i.e.*, an element or  
 11 combination of elements that is sufficient to ensure that the patent in practice amounts to significantly  
 12 more than a patent upon the ineligible concept itself.” *Id.* (internal citations and quotations omitted).  
 13 “[T]he concern that drives this exclusionary principle is one of pre-emption.” *Alice*, 134 S.Ct. at 2354.  
 14 That concern requires a careful balance: while “[m]onopolization” of “[l]aws of nature, natural  
 15 phenomena, and abstract ideas”—the “basic tools of scientific and technological work”—would “tend to  
 16 impede innovation more than it would tend to promote it,” it is also true that too broad an application of  
 17 “this exclusionary principle” would “swallow all of patent law,” as “[a]t some level, all inventions . . .  
 18 embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Id.*  
 19 (quotations omitted).

20 The Supreme Court and Federal Circuit have made clear that software and business methods  
 21 remain eligible for patent protection. *See DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1255-  
 22 56 (Fed. Cir. Dec. 5, 2014); *Ultramercial, Inc. v. Hulu, LLC*, --- F.3d ----, 2014 WL 5904902, \*4 (Fed.  
 23 Cir. Nov. 14, 2014). Indeed, the *Alice* Court recognized that the use of a computer to “improve the  
 24 functioning of the computer itself” or to “effect an improvement in any other technology or technical  
 25 field” is patent-eligible subject matter. *Alice*, 134 S.Ct. at 2359; *see also Diamond v. Diehr*, 450 U.S.  
 26 175, 187 (1981) (“[A] claim drawn to subject matter otherwise statutory does not become nonstatutory  
 27 simply because it uses a . . . computer program, or digital computer.”).

28 The Federal Circuit has recently emphasized that “the analysis under § 101, while ultimately a

1 legal determination, is rife with underlying factual issues.” *Ultramercial, Inc. v. Hulu, LLC*, 722 F.3d  
 2 1335, 1339 (Fed. Cir. 2013), *vacated on other grounds*, 134 S.Ct. 2870 (2014). The Federal Circuit has  
 3 identified many reasons the § 101 inquiry is inherently fact specific:

4 [T]here is no doubt the § 101 inquiry requires a search for limitations in the claims that  
 5 narrow or tie the claims to specific applications of an otherwise abstract concept. Further,  
 6 factual issues may underlie determining whether the patent embraces a scientific principle  
 7 or abstract idea. *If the question is whether “genuine human contribution” is required,*  
 8 *and that requires “more than a trivial appendix to the underlying abstract idea,” and*  
 9 *were not at the time of filing “routine, well-understood, or conventional,” factual*  
*inquiries likely abound. Almost by definition, analyzing whether something was*  
*“conventional” or “routine” involves analyzing facts. Likewise, any inquiry into the*  
*scope of preemption – how much of the field is “tied up” by the claim – by definition*  
*will involve historic facts: identifying the “field,” the available alternatives, and*  
*preemptive impact of the claims in that field.*

10 *Id.* (internal citations omitted) (emphasis added).

11 Finally, Section 101 is “only a threshold test.” *Bilski v. Kappos*, 561 U.S. 593, 602 (2010); *Mayo*  
 12 *Collaborative Serv. v. Prometheus Lab., Inc.*, 132 S. Ct. 1289, 1304 (2012). For instance “conventional  
 13 elements do not constitute everything in the prior art.” *Cal. Inst. of Tech. v. Hughes Comms. Inc.*, --F.  
 14 Supp.3d --, Case No. 2:13-CV-07245-MRP-JEM, 2014 WL 5661290, at \*14 (C.D. Cal. Nov 3. 2014).  
 15 To be sure, “conventional elements and prior art may overlap” any “conventional element” is almost  
 16 certainly within the prior art for purposes of obviousness. *Id.* But the prior art contains in addition many  
 17 concepts that, while relevant to a patent’s validity under Sections 102 and 103, are not “conventional”  
 18 within the meaning of *Alice*, *Mayo Clinic*, and their progeny. As the Supreme Court has held since  
 19 *Diehr*, “conventional” in the context of Section 101 means “conventional industry practice.” *Alice*, 134  
 20 S.Ct. at 2358 (quoting *Diehr*, 450 U.S. at 178). Activity is “conventional” only where it is “known to the  
 21 industry.” *Id.* at 2358-59. And “conventional” is not the only limiting factor; to discount the activity in  
 22 conducting the Section 101 analysis, it must also be “well-understood” and “routine.” *Alice*, 134 S.Ct. at  
 23 2359. Only “routine and conventional” activity is disregarded under Section 101. *DDR Holdings*, 773  
 24 F.3d at 1259; *see also Ultramercial*, 772 F.3d at 715. Thus, other issues concerning validity, including  
 25 novelty and non-obviousness must be treated separately. *Microsoft Corp.*, 131 S.Ct. at 2242.

#### 26 **IV. ARGUMENT**

27 Relying on attorney argument, rather than actual facts, Apple attempts to miscast the inventions  
 28 of the ‘659 Patent as merely a way of “finding information in a tabular data structure.” Dkt. No. 408, at

7. But Apples mischaracterization is so broad that it has no meaningful relationship with what is *actually* claimed in the '659 Patent. Indeed, the facts are the opposite of Apple's arguments: the '659 Patent unambiguously claims a new device for converting oral input into text that a computer can use.

A simple review of the claims above makes it apparent that Apple's proposed abstract idea of "finding information in a tabular data structure" would ignore all but element (d) of representative Claim 22.<sup>6</sup> Yet, the inventions are much more than that. To illustrate, Figure 6 presents the major components of an apparatus according to the '659 Patent:

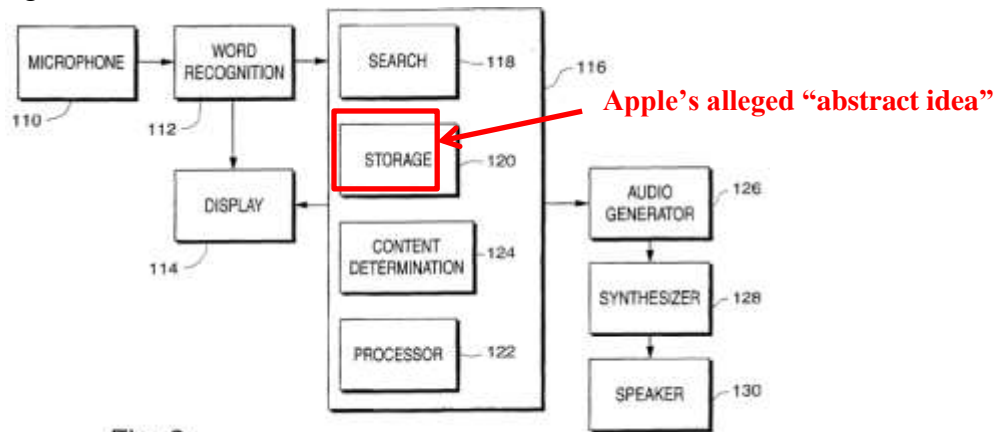


Fig. 6

(Gilbert Decl., Ex. A at Fig. 6; col. 4:34-35 (describing Figure 6)). Again, Apple's alleged abstract idea only captures element 120 in Figure 6 above. Instead of addressing the claims as a whole, Apple takes a single limitation of the invention (a table), to the exclusion of the rest of the invention, magnifies it in degree and importance, and calls it the "abstract idea."

Apple's proposed abstract idea completely ignores the fact that — even though a tabular data structure is used — the inventions provide a way for a human to control a digital computer using his or her natural language, as opposed to a discrete set of arcane commands. (Gilbert Decl., Ex. A at 2:21-24; 2:34-35; 2:46-48). In other words, the inventor created a way for humans to control a computer by speaking to it as if they were speaking to another human. (*Id.* at 2:21-24; 2:34-35; 2:46-48). To accomplish this, it is fairly obvious that much more than a table is needed.

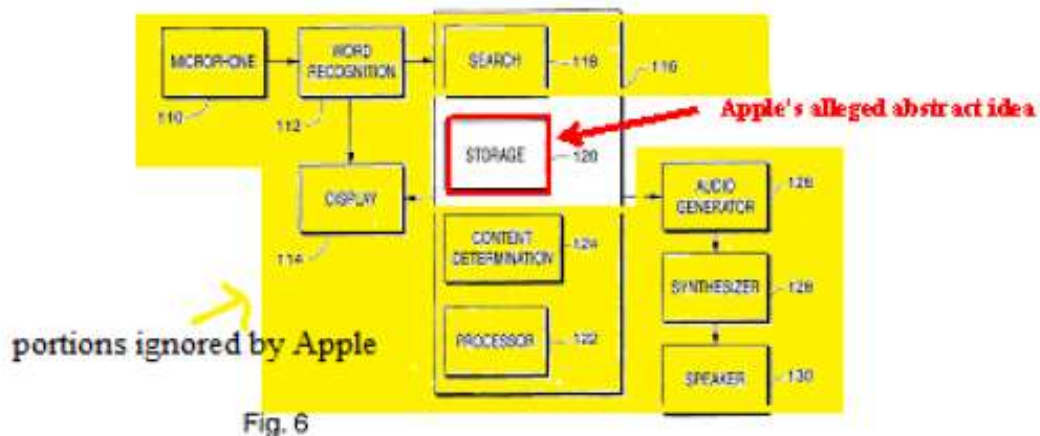
#### A. The Claims Are Not Directed to an Abstract Idea.

Apple mischaracterizes the Asserted Claims as being directed to finding information in a table and, in

<sup>6</sup> Potter Voice disagrees with Apple's assertion that Claim 1 is representative. However, even in the context of Claim 1, Apple ignores all but a portion of element (d).

doing so, omits vital parts of the claims, despite case law explicitly rejecting this approach. In fact, Apple's alleged abstract idea is so broad it would swallow any invention that used a table. In determining whether claims are directed to patent-eligible subject matter, the Supreme Court has long emphasized "the general rule that patent claims '*must be considered as a whole.*'" *Alice*, 134 S. Ct. at 2355 n.3 (quoting *Diehr*, 450 U.S. at 188) (emphasis added). A characterization of the patent claims – like Apple's here – that omits limitations or steps, or seeks to recast the actual language of the claim, should be rejected for purposes of a § 101 analysis. See, e.g., *Ameranth, Inc. v. Genesis Gaming Solutions, Inc.*, No. SACV 11-00189 AG, 2014 U.S. Dist. LEXIS 175600, at \*16-19 (C.D. Cal. Nov. 12, 2014) (denying summary judgment motion under § 101, *inter alia*, because defendant's characterization of invention omitted claim limitations). Similarly, it is inappropriate to evaluate patent eligibility based on an invention's purported "essence" or "gist." *Ultramercial*, 722 F.3d at 1344; see also *Mayo*, 132 S. Ct. at 1293 ("all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas."); see *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 345 (1961) ("there is no legally recognizable or protected 'essential' element, 'gist' or 'heart' of the invention").

Contrary to this long-standing law, Apple simply ignores important claim elements in order to portray the claims as simply the process of "finding information in a tabular data structure." Dkt. No. 408, at 7. In short, Apple chose a single limitation of the patent (a table), and represents it as being the "gist" or "essence" of the claims. *C.f.*, *Aro Mfg.*, 365 U.S. at 345.



(See Gilbert Decl., Ex. A at Fig. 6); see, also, the Asserted Claims. This type of mischaracterization is



improper under §101 jurisprudence. Moreover, there is simply no evidentiary support for Apple’s claim. Each of the Asserted Claims require at least a microphone, a word recognition device, associative searching, content determination, a tabular data structure, and the ability to process data. As a result, Apple’s straw-man “abstract idea” is simply wrong.

Moreover, patent claims directed to a technological problem specific to the digital environment do not implement any abstract idea. Thus, when the digital environment “introduces a problem that does not arise in the ‘brick and mortar’ context” and the claim is directed at solving that particular problem, it typically is not an abstract idea. *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1258 (Fed. Cir. 2014). For the same reason, a claim that “presents functional and palpable applications in the field of computer technology” is not excluded by Section 101.<sup>7</sup> *Research Corp. Techs.*, 627 F.3d at 868. “[P]atents should encourage inventors to create new computing solutions to today’s computing problems. . . . [I]t at least must be true that § 101 protects a unique computing solution that addresses a unique computing problem.” *Cal. Inst. of Tech.*, 2014 WL 5661290, at \*20.

The inventions of the ‘659 Patent are certainly a unique solution to a unique computer problem. In fact, the problem of controlling a computer with a human’s native language exists exclusively in the realm of computers. The fact that the Asserted Claims of the ‘659 Patent use tabular data structures to help enable this technology is of no consequence. “At some level, all inventions embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas. Thus an invention is not rendered ineligible simply because it involves an abstract concept. Applications of such concepts to a new and useful end . . . remain eligible for patent protection.” *Alice*, 134 S.Ct. at 2354. Apple has failed to demonstrate that the Asserted Claims cover an abstract idea, and the Alice analysis should end here.

#### **B. The Asserted Claims of the ‘659 Patent Embody Inventive Concepts.**

The Asserted Claims of the ‘659 Patent are directed to inventive concepts necessarily rooted in

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<sup>7</sup> The Federal Circuit has also found claims to be patent eligible in “cases where, as a practical matter, the use of a computer is required to perform the claimed method,” including claims involving “the manipulation of computer data structures” or “the output of a modified computer structure” where “the method could not, as a practical matter, be performed entirely in a human’s mind.” *Cybersource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1376 (Fed. Cir. 2011) (discussing the patent-eligible claims in *Research Corp. Techs.*, 627 F.3d at 868); *see also DDR Holdings*, 773 F.3d at 1257 (finding claim patent eligible where “the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks”).

1 computer technology and use non-conventional, non-generic components as part of those inventive  
 2 concepts. Under *Alice*, if a claim falls into one of the exceptions to patent eligible subject matter, then  
 3 Step 2 of the analysis requires that each element of the claim be further evaluated both individually and in  
 4 an ordered combination to determine whether the elements transform the abstract idea such that the  
 5 subject matter is patentable. *Alice*, 134 S.Ct. at 2355. A claim contains the requisite “inventive concept”  
 6 if it comprises more than “well-understood, routine, conventional activity already engaged in by the  
 7 scientific community.” *Mayo*, 132 S.Ct. at 1298. A claim directed to an abstract idea may nevertheless  
 8 remain a patent-eligible application of that abstract idea by, for example, improving upon existing  
 9 technology or integrating the abstract idea into a new combination of steps in a way that is  
 10 unconventional in the field. *Id.* at 1298-1300.

11 Apple’s analysis in Step 2 ignores the inventive concepts of the ‘659 Patent and fails to consider  
 12 the components in an ordered combination as required by the *Alice* line of cases. At the outset, the  
 13 Asserted Claims employ inventive concepts to enable a human to control a computer using natural  
 14 language. Conventional systems attempted to build spoken language control capability based upon the  
 15 conventional table storage and access methods which resulted in a robotic experience for users. By  
 16 applying associative computing methods in conjunction with content determination techniques based on  
 17 linguistic rules, Dr. Potter created new computing solutions to the unique computing problems of 1995.  
 18 *Id.*; *c.f.*, *DDR Holdings*, 773 F.3d 1245, 1256-57. Specifically, Dr. Potter’s used associative computing  
 19 techniques in conjunction with content determination to enable control of a digital computer using the  
 20 human’s natural speech patterns.

21 Moreover, to implement the inventive concepts of the Asserted Claims, the ‘659 Patent uses  
 22 associative search techniques to search the contents of digitized tabular data structures. (*See, e.g.*, Gilbert  
 23 Decl., Ex. A at 2:46-54; 3:4-14). Dr. Potter was one of the first to introduce the use of associative search  
 24 as a computing paradigm in 1994. These associative techniques for enabling content-addressable access  
 25 to digitized tables were anything but conventional or generic at the filing date, and they were distinct  
 26 from conventional search means. (*See, e.g.*, Gilbert Decl., Ex. A at 2:46-54; 3:4-14). In conjunction with  
 27 this associative search, the oral input information in the ‘659 Patent is “analyzed to determine the content  
 28 information of the words.” (*Id.* at 2:53-54). This technology was new. Dr. Potter developed it because



1 conventional approaches to human control of computers were inadequate due to the cryptic language  
 2 prior systems employed. The ‘659 Patent addressed this problem by using rules derived from syntactic  
 3 and semantic rules to determine content information. (*Id.* at 2:53-54). This use of content determination  
 4 in conjunction with associative search was neither conventional nor generic. (*Id.* at 1:15-65).

5 Finally, the “ordered combination” of the elements claimed by the Asserted Claims are inventive.  
 6 If a claim is directed to an abstract idea, then the Court must still determine whether the claim has an  
 7 inventive concept in the form of a “combination of elements that is sufficient to ensure that the patent in  
 8 practice amounts to significantly more than a patent upon the ineligible concept itself.” *Alice*, 134 S.Ct. at  
 9 2355. Apple’s approach of examining each individual claim limitation, dismissing it as old technology,  
 10 and then concluding that nothing patentable is left is impermissible under §101. If it were proper to  
 11 conduct a § 101 analysis based upon a simplified distillation or summary of claim language, then  
 12 virtually no claim would pass muster, as “any claim can be stripped down, simplified, generalized, or  
 13 paraphrased to remove all of its concrete limitations, until at its core, something that could be  
 14 characterized as an abstract idea is revealed.” *Ultramercial*, 722 F.3d at 1344. Taken together, the  
 15 methods and systems of the ‘659 Patent accept natural language as input through a microphone, process  
 16 that natural language using a speech-to-text converter, and then, by using associative searching and  
 17 content determination based on syntactic and semantic rules and conventions of natural language, control  
 18 the computer based on the oral commands. The dependent claims add the ability to perform a command  
 19 based on the input, provide a follow up request to the human operator, and the ability for the computer to  
 20 talk back to the human. The resultant systems and methods invented a computer that can understand and  
 21 respond to the natural speech of a human. Such concepts are indisputably inventive and far removed  
 22 from the concept of simply “finding information in a table.”

23 **C. The Claims of the ‘659 Patent Do Not Preempt the Alleged Abstract Idea And Apple Fails to**  
 24 **Address This Fundamental Concern of Section 101.**

25 A computer that interacts with humans using their natural language does not preempt the idea of  
 26 “finding information in a table.” Although a paramount concern underlying § 101 is preemption, “[b]y  
 27 definition, every patent preempts an area of technology.” *Cal. Inst. of Tech.*, 2014 WL 5661290, at \*12;  
 28 *see, also, Alice*, 134 S.Ct. at 2354. “[W]e must be wary of facile arguments that a patent preempts all

1 applications of an idea. It may often be easier for an infringer to argue that a patent fails § 101 than to  
 2 figure out a different way to implement an idea . . . .” *McRo, Inc. v. Namco Bandai Games Am., Inc.*,  
 3 Case No. No. CV 12–10322–GW (FFMx), 2014 WL 4749601, \*7 (C.D. Cal. Sep. 22, 2014) (*quoting*  
 4 *O’Reilly v. Morse*, 15 How. 62, 113, 14 L.Ed. 601 (1854)). Where patent claims are directed to a  
 5 particular technological improvement in a particular field, and do not attempt to cover the field itself,  
 6 there is no risk of preemption. *See, e.g., DDR Holdings*, 773 F.3d at 1259 (claims did not preempt every  
 7 application of the idea of increasing sales by making two web pages look the same because they recited a  
 8 specific way to automate the creation of a composite web page); *Intellectual Ventures I LLC v. Mfr. &*  
 9 *Traders Trust Co.*, Case No. 13-1274-SLR, 2014 WL 7215193, \*9 (D. Del. Dec. 18, 2014) (claims  
 10 recited a specific method of customizing web pages and therefore did not preempt all applications of  
 11 creating custom websites); *Fairfield Indus. v. Wireless Seismic, Inc.*, Case No. 14-CV-2972, 2014 WL  
 12 7342525, \*6 (S.D. Tex. Dec. 23, 2014) (claim did not preempt the idea of a relay system because it built  
 13 upon this concept by adding nonconventional elements, such as the assignment of different transmission  
 14 parameters to avoid jumbled communication). The ‘659 Patent does not preempt the idea of finding  
 15 information in a table, or even the idea of finding information in a digitized table. For instance, the  
 16 public can still find information in a table using a keyboard, touchpad, mouse, or visually. Or it could do  
 17 so without a speech-to text converter.

18 Indeed, Apple has argued in this very case that it could use oral input to the computer without  
 19 associative search or content determination techniques without violating the patent. (Gilbert Decl., Ex. C  
 20 at 3-14). There are literally endless ways that the public can still find information in a table without  
 21 falling within the scope of the Asserted Claims. As such, the claims do not preempt any “basic tools of  
 22 scientific and technological work” such that there is a risk of preemption. *Alice*, 134 S.Ct. at 2354.

## 23 **V. CONCLUSION**

24 In 1995, Dr. Potter invented a new and revolutionary device that allowed a human to control a  
 25 computer using natural language commands. The inventions in the ‘659 patent are complex and directed  
 26 to solving critical problems in the computer environment – problems that left true human voice-computer  
 27 interface to the realm of science fiction. But Apple argues that the patent is little more than an  
 28 abstraction – and cannot pass even the “coarse filter” of Section 101. Apple does so by distilling and

1 then reconstructing the patent into a straw man – focusing on a table at the exclusion of many other  
 2 inventive parts of the invention. And Apple even ignores one of the important aspects of invention – not  
 3 the table itself but the associative search of that table that allows the computer to function in a way that  
 4 allows the science fiction of voice control to become reality. Apple’s approach violates the rules laid  
 5 down in *Alice* for evaluating Section 101 patentability. The evidence shows that Dr. Potter developed a  
 6 new and unique solution to a problem that long vexed computer science. A solution that, Potter alleges,  
 7 can be found in Apple’s Siri – a product used by millions and touted by Apple itself as a breakthrough in  
 8 the way we interact with electronic devices. Far from an abstraction, Potter’s patent is a breakthrough in  
 9 modern computing. Apple cannot meet its heavy burden to show otherwise and its Motion should be  
 10 denied.

11  
 12  
 13 Dated: April 3, 2015

Respectfully submitted,

14  
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